

**EFFICIENCY BETWEEN MANUAL AND MECHANIZED LOADING SYSTEM
OF OIL PALM FRESH FRUIT BUNCH (FFB) AFTER HARVEST**

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ABSTRACT

This study was conducted to compare the efficiency between the manual and mechanical loading system used in FFB evacuation after harvested in oil palm plantation. It is done to find the most efficient system to be used in the plantation. The study was done by analysing the data of productivity, cost and hectare coverage. Malaysia palm oil plantation nowadays more depends on human labour especially in field operation. Dependence on the human labour will increase the cost and also affect the productivity. The human productivity in field operation is lower compared to the machine because the machine can perform tasks more consistently than human. As the country that leads in oil palm industry, Malaysia needs to invent and implement modern technology that can contribute to the productivity of oil palm. The implementation of the machinery used in the plantation not only will solve the efficiency problem but also the labour shortage problem that is facing by many countries. The contribution of MTG tractor in oil palm plantation proved that it can increase the productivity, decrease the cost and increase the hectare coverage by the worker.

CHAPTER 1

INTRODUCTION

1.1 Background Of Study

Oil palm is one of the main crop planted in Malaysia, about 2,910,945 hectare of land used for oil palm plantation based on reported by ministry of agriculture in 2011. Because of the increasing in the oil palm plantation sector, there are many product developed to increase the efficiency in oil palm plantation activities. Large amount of machineries invented in order to make sure the efficient way in all the activities. Loading system of Fresh Fruit Bunch (FFB) after harvest into transportation is one of the activities that important before the FFB reach mill. In the past, loading activity is done by manually, but nowadays a machine has been invented called 'the grabber' to increase the loading system efficiency.

Even the grabber has been introduced into the plantation in early 90's, but many plantation sector do not used the machine in their routine. This study will find and examine the efficient system used in loading process either manually or mechanically. The efficiency of the system used will be measured based on the cost, time and productivity between the systems and these elements will be analysed and compared to prove the efficient system required by the plantation.

1.2 Objectives

1.2.1 To study the factors that contribute to the efficiency of the loading system of FFB after harvest.